

Claims

What is claimed is:

1. A method for aligning a passenger loading bridge having an aircraft-engaging end to a doorway of an aircraft, comprising the steps of:
 - guiding the aircraft toward the aircraft-engaging end of the passenger loading bridge;
 - providing a human intelligible indication for indicating a parking position of the aircraft, the human intelligible indication being dependent upon a position of the aircraft-engaging end of the passenger loading bridge, such that substantially varying the position of the aircraft-engaging end of the passenger loading bridge results in a substantial variation in the parking position of the aircraft;
 - stopping the aircraft at the parking position in dependence upon the human intelligible indication, such that the doorway of the aircraft is substantially aligned with the aircraft-engaging end of the passenger loading bridge; and,
 - adjusting the passenger loading bridge to move the aircraft-engaging end into an aircraft engaging condition.
2. A method according to claim 1, including the steps of:
 - determining a type of the aircraft; and,
 - selecting the parking position of the aircraft based on the determined type of the aircraft, wherein a different parking position is selected for different aircraft types.
3. A method according to claim 2, wherein the parking position of the aircraft is selected from a plurality of predetermined parking positions for a same type of aircraft at a same passenger loading bridge.
4. A method according to claim 2, including the step of moving the aircraft engaging end of the passenger loading bridge to a position adjacent to the selected parking position of the aircraft.

5. A method according to claim 1, wherein the step of adjusting the passenger loading bridge to move the aircraft-engaging end into an aircraft engaging condition includes a step of extending the passenger loading bridge a distance of between 0.5 meters and 3 meters.
6. A method according to claim 5, wherein the step of adjusting the passenger loading bridge to move the aircraft-engaging end into an aircraft engaging condition includes a step of extending the passenger loading bridge a distance of less than 1 meter.
7. A method for aligning a passenger loading bridge having an aircraft-engaging end to a doorway of an aircraft, comprising the steps of:
 - determining a type of the aircraft;
 - determining a desired parking position for the determined type of the aircraft;
 - moving the aircraft-engaging end of the passenger loading bridge to a position adjacent to the desired parking position;
 - guiding the aircraft toward the aircraft-engaging end of the passenger loading bridge;
 - providing a human intelligible indication for indicating the desired parking position of the aircraft, the human intelligible indication being dependent upon the position of the aircraft-engaging end of the passenger loading bridge, such that substantially varying the position of the aircraft-engaging end of the passenger loading bridge results in a substantial variation in the parking position of the aircraft;
 - stopping the aircraft at the desired parking position in dependence upon the human intelligible indication, such that the doorway of the aircraft is substantially aligned with the aircraft-engaging end of the passenger loading bridge; and,
 - adjusting the passenger loading bridge to move the aircraft-engaging end into an aircraft engaging condition.
8. A method according to claim 7, wherein the step of adjusting the passenger loading bridge to move the aircraft-engaging end into an aircraft engaging condition includes a step of extending the passenger loading bridge a distance of between 0.5 meters and 3 meters.

9. A method according to claim 8, wherein the step of adjusting the passenger loading bridge to move the aircraft-engaging end into an aircraft engaging condition includes a step of extending the passenger loading bridge a distance of less than 1 meter.
10. A method according to claim 7, wherein the step of providing a human intelligible indication for indicating the desired parking position of the aircraft includes the steps of:
 - displaying symbols to convey information to an operator of the aircraft, the information for guiding the aircraft toward the desired parking position.
11. A method according to claim 10, wherein the symbols are displayed using a visual guidance docking system having a portion that moves in dependence upon the position of the aircraft-engaging end of the passenger loading bridge.
12. A method according to claim 10, wherein the symbols are displayed using a stationary visual guidance docking system having a plurality of individual light sources, each individual light source being selectively illuminable.
13. A method according to claim 7, wherein the step of providing a human intelligible indication for indicating the desired parking position of the aircraft includes the steps of:
 - positioning an indicator relative to the aircraft-engaging end of the passenger loading bridge,wherein the position of the indicator is indicative of the desired parking position of the aircraft.
14. A method according to claim 13, wherein the indicator is a wand.
15. A method for aligning a passenger loading bridge having an aircraft-engaging end to a doorway of an aircraft comprising the steps of:
 - determining a type of the aircraft;
 - selecting a desired parking position for the determined type of the aircraft from a plurality of allowed parking positions for the determined type of the aircraft in the vicinity of the passenger loading bridge;

moving the aircraft-engaging end of the passenger loading bridge to a position immediately adjacent to the desired parking position;

guiding the aircraft toward the aircraft-engaging end of the passenger loading bridge;

providing a human intelligible indication for indicating the desired parking position of the aircraft, the human intelligible indication being dependent upon the position of the aircraft-engaging end of the passenger loading bridge, such that substantially varying the position of the aircraft-engaging end of the passenger loading bridge results in a substantial variation in the parking position of the aircraft;

stopping the aircraft at the desired parking position in dependence upon the human intelligible indication, such that the doorway of the aircraft is substantially aligned with the aircraft-engaging end of the passenger loading bridge; and,

adjusting the passenger loading bridge to move the aircraft-engaging end into an aircraft engaging condition.

16. A system for aligning a passenger loading bridge to a doorway of an aircraft comprising:
a passenger loading bridge having an aircraft-engaging end for being aligned with the doorway of the aircraft;

an alignment indicator for indicating a stopping position of the aircraft;

a controller in electrical communication with the passenger loading bridge and with the alignment indicator for determining a human intelligible indication to be displayed by the alignment indicator in dependence upon a position of the aircraft-engaging end of the passenger loading bridge,

wherein the stopping position of an aircraft of a same type changes with changes in the location of the aircraft-engaging end of the passenger loading bridge.

17. A system according to claim 16, wherein the alignment indicator is an active indicating device.

18. A system according to claim 17, wherein the active indicating device includes a series of individual light sources arranged in rows and columns for displaying the human intelligible indication in the form of recognizable symbols.

19. A system according to claim 18, wherein each individual light source of the series of individual light sources comprises a light emitting diode.

20. A system according to claim 17, wherein the active indicating device includes a visual guidance docking system including a display portion and a sensing portion, at least one of the display portion and the sensing portion being moveable in dependence upon the aircraft-engaging end of the passenger loading bridge.

21. A system according to claim 17, wherein the active indicating device includes a wand.

22. A system according to claim 21, including an adjustable support arm for positioning the wand.

23. A system according to claim 17, wherein the active indicating device includes a laser light source for emitting laser light to form an image for conveying information to an operator of the aircraft, the information for guiding the aircraft toward the stopping position.